

2017/2018

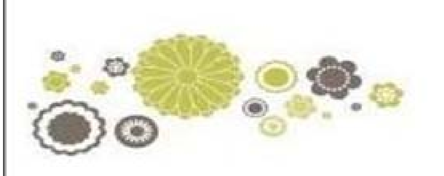




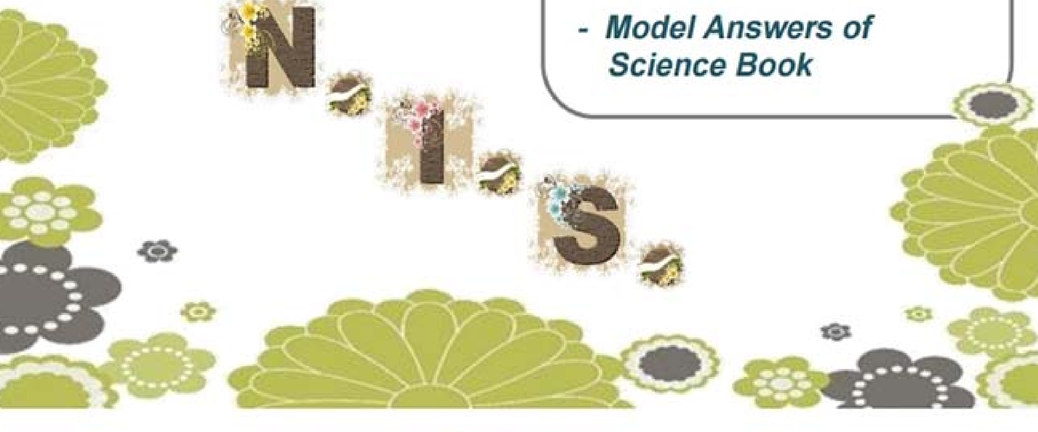
SCIENCE FOURTH PRIMARY FIRST TERM



اكتب ذاكرولي في البحث وانضم لجروبات ذاكرولي
من رياض الأطفال للصف الثالث الإعدادي



Contents





Lesson 1: Measuring Tools
Lesson 2: Matter states & its changes
Lesson 3: Elements around us
Lesson 4: Physical & chemical changes

Unit One



Unit 1

Lesson 1 Measuring tools

What is matter? It is anything that has mass and volume.

Mass: The amount of matter in an object.

Volume: It is the space taken by the matter.

G.R: Air is matter.

Because it has mass and volume.

1-Measuring length

Tools of measuring length

Ruler

Graduated tape

Units of measuring length

Kilometer (Km)	Meter (m)	Centimeter (Cm)

1 Km = 1000 m
1 m = 100 cm



2-Measuring Mass

Tools of measuring mass

BY balances



Two pan balance
to measure big mass



Sensitive balance
to measure small mass

Units of measuring mass

Ton	Kilogram (Kg)	Gram(gm)



1 Ton = 1000 kg
1 kg = 1000 gm



3- Measuring Volume

Units of measuring volume

Liter (L) (for liquids)	Milliliter (ML) (for liquids)	Cubic centimeter (cm^3)	Cubic meter (m^3)

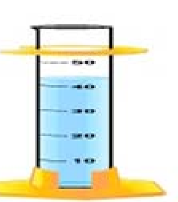
1 Liter = 1000 ML= 1000 cm^3





Tool of measuring volume of liquid

Graduated cylinder



Measuring volume of solids

Volume of regular solids

Volume= Length × Width × Height
= L × W × H



Example:
Find the volume of a brick, knowing that its length =7cm, width=5cm, Height=1cm
Answer:
The volume of the brick=
L X W X H = 7 X 5 X 1 = 35 cm^3

Volume of irregular solids

Volume= $V_2 - V_1$= ….cm^3

Example:
How to measure the volume of a stone?
Answer:
1. Put an amount of water in a graduated cylinder, and record the number (V_1).
[V_1= 30 cm^3]

2. Put the stone in the cylinder and record the new volume of water (V_2).
[V_2= 50 cm3]
Volume= V_2-V_1= 50-30= 20 cm^3

Equal volumes of different substances have different masses.

1- Bring two cubes having the same volume. One of them is made of iron and the other is made of wood.

2- Put the iron cube in one pan of the two pan balance and the wooden cube in the other pan.

* The iron cube has greater mass than the wooden cube.





Evaluation

A Write the scientific term:

1) Anything that has mass and volume. (……..………….)
2) The amount of matter in an object. (…..……………)
3) The unit of measuring volume of liquids. (………..…..……)
4) The unit of measuring small masses like jewelers. (……….……….)
5) A tool that measures the volume of liquids and irregular solids. (………………..)
6) A tool that measures small masses. (……….………..)
7) A tool to measure length of object. (……………….…)
8) The unit of measuring big masses like apples and oranges. (……………………)

B Put (√) or (×):

1- The cm^3 is the unit of measuring length. ( )
2- We use the balance to measure the masses of objects. ( )
3- Different materials of the same volume have the same mass. ( )
4- Volume is the space occupied by an object. ( )
5- The volume of cuboid = L x W x H . ( )
6- Clothes have mass. ( )
7- Salt has volume. ( )
8- 1 kilometer = 100 meters. ( )

C Problem :

1- Calculate the volume of a cuboid whose length is 5cm, its width 3cm and it height equals 2cm .

……………………………………………………………………………………

2- A glass contains 70 cm^3 of water. when an irregular stone was put in it, the level of water became 80 cm^3 find the volume of the stone .





Home work

A Write the scientific term:

1- It is the space that is occupied by an object. (………………….)

2- A tool used to measure the length of an object. (…………………..)

3- Unit of measuring very large masses. (………………….)

4- The unit of measuring volume of solids. (………………….)

B Problem :

1-Calculate the volume of a cuboid whose length is 4cm, its width 2cm and its height equals 1cm.

……………………………………………………………………………………

2-A glass contains 50 cm^3 of water. When an irregular stone was put in it, the level of water became 60 cm^3. Find the volume of the stone.

……………………………………………………………………………………

C Join :

(A)	(B)
1-The liter	a. is used in estimating the mass of objects.
2-Kilogram	b. is used in measuring the volume of liquids and irregular solid bodies.
3-Graduated tape	c. is a unit used to measure the mass of object.
4-Measuring cylinder	d. is a unit used to measure the volumes of liquids.
5-Balance	e. is used to measure the length.

1. ……… 2. ……… 3. ……… 4. ……… 5. ………







Lesson 2 Matter states and changes

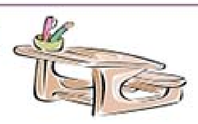
Matter exists in three states

Solid | Liquid | Gas







Solids Iron  Wood  Salt 

Activity

Steps	Observation	Conclusion
1- Bring three different solid objects, and three test tubes. 2- Put each object in a test tube. 3- Compare between the shape and volume of each object before and after you put them in each test tube.	The volume and the shape of each object <u>don't change.</u>	Solids have definite shape and volume. .

Solids have definite shape and volume





Liquids	Oil	Milk	Petrol	Water
				

Activity

Steps	Observation	Conclusion
1- Bring two containers different in shape. **2 -Put 100cm^3 of water in each container.**	**The volume of water doesn't change,but its shape changes.** 	**Liquids have definite volume but indefinite shape.(they take the shapes of their container)**

Liquids have definite volumes but they do not have definite shapes.
(A liquid takes the shape of its container).



Gases	Carbon dioxide	Oxygen	Water vapor	Air
				

Activity

Steps	Observation	Conclusion
1-Bring a balloon, blow it and tie it with a thread. **2-Press on the balloon with your hand.**	**The volume and shape of air changes by pressing on the balloon.** 	**Gases have indefinite volume and shape.**

Gases have indefinite shapes and indefinite volumes.





In Oxygen and butagas cylinders, the gas is compressed inside them, where the shape and volume are changed.




Water exist in three states: Ice, water, water vapor



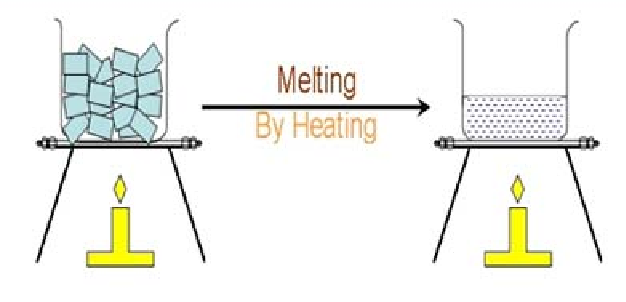


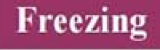
Solid **Liquid** **Gas**

Note

- **Water is found in liquid state at ordinary temperature.**
- **Matter as water can change from one state to another by heating or cooling.**

Melting **It is the change of solid (ice) to liquid (water) by heating.**





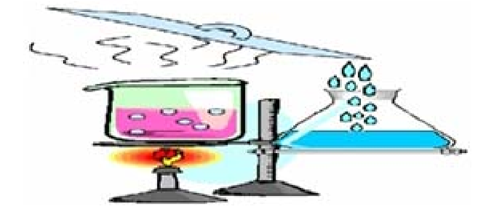
Freezing It is the change of liquid (water) to solid (ice) by <u>cooling.</u>



Evaporation It is the change of liquid (water) to gas (water vapor) by <u>heating</u>.



Condensation It is the change of gas (water vapor) to liquid (water) by <u>heating</u>.



G.R: The appearance of water droplets on the cars and leaves in the early morning.

Answer

The water vapour in the air condenses on cold surfaces (like cars,leaves,covers covers of tea pot & glasses) forming water droplets.





Evaluation

A Write the scientific term:

1. Transformation of matter from the liquid state to the solid state. (…………………)
2. A state of matter that has indefinite shape and volume. (…………………)
3. The transformation of matter from the gaseous state to the liquid state. (…………………)
4. A matter characterized by having a definite volume but it takes the shape of its container. (…………………)
5. The change of water to water vapor. (…………………)
6. A state of matter that has definite shape and volume. (…………………)

B Choose:

١. The appearance of water droplets on a glass containing ice is due to……
- A) Freezing
- B) Condensation
- C) Evaporation
- D) Melting

٢. …… is one of the liquids.
- A) Salt
- B) Wood
- C) Iron
- D) Oil

3. Which of the following substances that can be melted?
- A) water
- B) oil
- C) ice
- D) water vapor

4. Which of the following substances that can be condensed?
- A) water
- B) oil
- C) ice
- D) water vapor

5. Solids and liquids have definite …………..
- A) shape
- B) shape and volume
- C) volume
- D) texture





Home work

A Complete:

1-In the ……………. matter, the volume and shape don't change.

2- Water exists in the ……………….. state at room temperature.

3- Both liquids and gases don't have definite …………..………

4- Ice can be changed into water by ………………………………

5- States of matter are …………, ………… and…………………

B Correct the underlined word:

1- There are <u>four</u> states of matter. (……………………….)

2-<u>Melting</u> is the transformation of matter from the liquid state to the gaseous state. (……………………….)

3-Milk has a definite volume and a <u>definite</u> shape. (……………………….)

4-When water <u>freezes</u>, it changes into water vapor. (……………………….)

5-Oxygen gas has a <u>definite</u> shape and volume. (……………………….)

C Classify:

Oil – Table salt – Sugar – Mercury – Air –Water – Ice -Oxygen – Water vapour.

Solids	Liquids	Gases
………………………	………………………	………………………
………………………	………………………	………………………
………………………	………………………	………………………





Unit 1

Lesson 3 — Elements Around Us

Element: It is the smallest building unit of a matter that can't be decomposed into two or more substances.

Elements are classified into:

1. Metals

- **Solids**
  - Iron
  - Copper
  - Aluminum
  - Silver
  - Gold
- **Liquids**
  - Mercury

2. Non metals

- **Solids**
  - Sulphur
  - Phosphorus
  - Carbon (Coal)
- **Liquids**
  - Bromine
- **Gas**
  - Oxygen



Elements and luster

Activity

Steps	*Observation*	*Conclusion*
Bring samples of different elements such as:- Iron,Copper, Aluminium,Sulphur, Mercury and Coal .	**Iron,Copper,Aluminium and Mercury, are shiny, but Sulphur,and Coal are not shiny.**	**All metals are shiny, but all non-metals are not shiny.**





Elements and Malleability

Steps	Observation	Conclusion
. Test samples of different elements such as Iron, Copper, Aluminium, Coal and sulphur, Which of these samples can be bent or hammered (malleable & ductile) and Sulphur. Which of these samples can be bent or hammered (malleable & ductile)	. Iron, Copper and Aluminium can be bent and hammered (malleable & ductile), but Coal and Sulphur can't be bent and hammered (not malleable or ductile)	All metals can be bent and hammered (malleable & ductile), but all non-metals can't be bent or hammered (not malleable or ductile).



Elements and Heat conductivity

Steps	Observation	Conclusion
Bring some bars of different elements such as Iron, Copper, Aluminum, Carbon and Sulphur. - At one end of each bar fix a small piece of wax - Expose the other end to the flame of a candle	Iron, Copper, and Aluminum are good conductors of heat. as the wax melts but Carbon, and Sulphur are bad conductors of heat. As the wax doesn't melt.	All metals are good conductors of heat, but all non-metals are bad conductor of heat

copper
iron

Elements and Electrical conductivity

Steps	Observation	Conclusion
- Bring a dry cell (battery), an electric lamp and a Copper wire. - Form an electric circuit. - Repeat the above test using Aluminium, Iron, Sulphur, and Graphite rod of a pencil (Carbon).	The lamp lights on using the Aluminium,Iron, and the graphite rod of a pencil. The lamp does not light on using Sulphur. Iron rod Copper wire Sulphur rod	All metals are good conductors of electricity, but all non metals are bad conductors of electricity except Carbon (graphite).



Elements and Melting point

Steps	Observation	Conclusion
- Bring samples of different elements such as Iron nail, Copper, Aluminum and Sulphur. - Heat each of them for a suitable period of time.	Iron, Copper and Aluminum have high melting points. While Sulphur has a low melting point.	All metals have high melting points but all non-metals have low melting points.

Importance of elements

Metals

Iron

Bridges, doors, cars, and street lights.



Copper

Electric wires ,statues, and coins



Aluminium

Cooking pans, foil



Silver and Gold

Jewellary



Non Metals

Carbon

The positive pole of the dry cell





Metals	Non-metals
1- They have luster (shiny)	They don't have luster (not shiny).
2- Good conductors of heat.	Bad conductors of heat.
3- Good conductors of electricity.	Bad conductors of electricity except Carbon (Graphite).
4- They have high melting points.	They have low melting points.
5- They are Solids at room temperature (except Mercury liquid).	At room temperature they may be:- a) Solids (Sulphur, Phosphorus, Carbon). b) Liquids (Bromine). c) Gases.
6- They are malleable & ductile.	They are not malleable or ductile.

Evaluation

A Write the impotance of:

1-Iron: ……………………………………………………………………………..
2-Mercury: …………………………………………………………………..
3-Aluminum: …………………………………………………………………
4-Copper: ……………………………………………………………………..
5- Gold: ………………………………………………………………………..

B Write the scientific term:

1- Elements which can be bent, hammered, and are good conductors of heat and electricity. (………………………………….)
2- Elements that have low melting point. (…………………………..)
3- Elements that have metallic luster. (……………………………..)
4- Elements that are bad conductors of heat. (……………………….)
5- A non metal used in making the positive pole of dry cell. (……………………)
6- It is the simplest form of matter that can't be decomposed into two substances or more. (……………………………)
7- The only liquid metal at room temperature. (……………………)
8- An element that is used in manufacturing of foil paper. (…………………………)
9- A non-metal that is used in making the positive pole of the dry cell. (………………)



Home work

A Put (√) or (×):

1- Both iron and Sulphur can be bent or hammered to form sheets. ( )
2- Nitrogen, Carbon and Sulphur are metals.( )
3- Cooking pans are made of non-metal. ( )
4- Copper is used in making electric wires. ( )
5- Gold is a bad conductor of heat. ( )
6- Nonmetals exist as solid, liquid or gas. ( )

B Complete:

1- …………… is a liquid metal, while …………… is a liquid non-metal.
2-All non-metals are ……………… Conductors of electricity except…………..
3-We use ……………… in making bridges, but we use ………… in making jewels.
4-…………………… have high boiling points , but ……………. have low boiling point.
5-………………..is the substance that cant be decomposed into two or more substances.
6-Graphite is from …………..elements but it is a good conductors of……………….

C Choose:

1- ……………… is an example of non-metals.
a) Copper. b) Carbon. c) Aluminium. d) Iron.
2-The car frames are made up of iron because it ………………
a) is a good conductor of heat. b) is malleable and ductile.
c) has metallic luster. d) has high melting point.
3- All the following elements are good conductors of electricity except…………
a) Carbon b) Iron
c) Sulphur d) Copper
4-……………. Is the gas nonmetal.
a) Copper b) Iron
c) Mercury d) Bromine





Lesson 4 Physical and Chemical change

Physical change

It is the change in the shape (appearance) of a matter, without a change in its structure

Examples:



Dissolving table salt in water



Grinding of sugar cubes into powder





Melting of wax (candle)



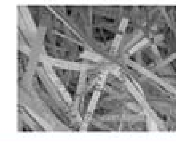
Changes of water (melting-evaporation-freezing-condensation)

Melting of chocolate



Cutting paper into small pieces and paper recycling









Chemical change

It is the change in the structure of a matter that forms a new substance, with different properties.

Examples:

<u>Burning of sugar:</u> a new brown substance is formed with a different taste

<u>Burning of paper and wood:</u> a new black substance is formed which cant be returned back to paper again.



<u>Rusting of iron:</u> on wet conditions (presence of water and oxygen) iron forms a brown layer called the rust and cant be returned back to the first form

Rotten of fruits and their fermentation



Using the yeast in baking



Production of yoghurt from milk



Evaluation

A Complete:

1. Melting of wax is considered a …………… change.
2. Rusting of Iron is considered a ………… change.
3. Ductility of copper into wires is a ………………..change.
4. Evaporation of water is considered a ………… change.
5. Charring of bread is …………………….change.
6. The chemical change is a change in ………………….
7. Grinding of sugar is considered a ……… change while its burning is a ……………. change

B Write the scientific term:

1. It is the change in the shape of matter not in its structure. (…………………………….)
2. It is the change in the structure of matter to form a new substance with different properties. (…………………………….)
3. A change occurs when we produce yoghurt from milk. (……………………………..)
4. A change occurs during paper recycling. (…………………………….)

C Put (√) or (×):

1- The change of matter from one state to another is a chemical change. ( )
2- Melting of ice is not a chemical change. ( )
3- Rusting of iron does not change the structure of iron. ( )
4- Charring of wood is a chemical change. ( )
5- Melting of wax forming wax drops is a chemical change. ( )
6- Cutting paper into small pieces is a chemical change. ( )
7- Fermentation of fruits is a physical change. ( )



Home work

A Complete:

1- Charring of bread is a.................. change.
2-Rotten of fruits and their fermentation is considered as a ………………. change.
3-The physical change is a change in the ………………..of the substance without any change in its …………………
4- ……………….....and ……………….. are examples for physical change.
5-The physical change is a change in……………..without change in…………………
6-Melting of any solid is a ………………change.

B Put (√) or (×):

1-Condensation forming rain water is a chemical change. ( )
2- Physical change is a change in the appearance and the structure of matter. ( )
3- Burning a match stick is considered a physical change. ( )
4- The change of paper to black ash is a physical change. ( )
5- The dissolving of salt in water is a change in its appearance, not in structure. ( )

C Choose:

1- ………….is a physical change
a) Wood combustion b) burning of sugar
c) iron rusting d) water freezing
2-All of these are physical changes except……………
a) Grinding of sugar b) melting of ice
b) Fermentation of food d) condensation of water vapor
3-The physical change is a change in ………………
a) the taste of matter b) the structure of matter
c) the appearance of matter d) (a) and (c)





Lesson 1: Stars & planets

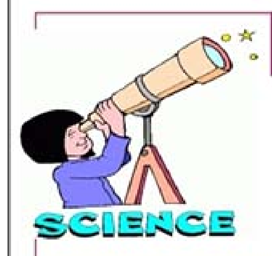
Lesson 2: The movement of the sun and the Earth

Unit Two





Lesson 1 **Stars and Planets**





The Stars

1 - They are lighting bodies.
2 – They are of different sizes.
3 – The sun is one of the stars.

G.R

The big stars look very small.
Because they are very far away from us.

Our Solar System



The solar system consists of:

1. The sun

* It is a self shining body.
* It is the biggest body in the solar system.
* It is a medium sized star.
* It lies at the center solar system.

2. The eight planets

*They are dark bodies (do not emit light).
*They rotate around the sun in fixed elliptical orbits .

3. Moons

*They are the followers of the planets

4. Other celestial bodies.







Properties of the planets

1 It is the smallest planet.
The nearest planet to the sun. **1-Mercury**

2 The most beautiful planet. **2-Venus**

3 The planet where we live. **3-Earth**

4 The red planet. **4-Mars**

5 The biggest planet. **5-Jupiter**

6 It has colored rings around it. **6-Saturn**

7 The coldest planet. **7-Uranus**

8 The farthest planet.
Called the blue planet. **8-Neptune**



Moons



G.R

The moon is a dark body but it seems shiny.
⇨ Because it reflects the sun light falling on its surface.



Steps

2- Cover a ball with foil.
2- Darken the class.
3- Turn the flash light (pocket torch) on and direct it towards the ball.

Observation:-

2-You see the ball shiny when the torch turns on.

Conclusion:-

The Moon is a dark body, but it reflects the Sun light, so it seems shiny.

Summery

Stars	Planets	Moons
Shiny bodies that emit light and heat.	ark bodies.	Dark body but seems shiny because it reflects the sun light falling on its surface.
Swim in the space.	Revolve (rotate) around the sun in fixed elliptical orbits.	Rotate around the planets.
Ex: sun	Ex: Earth	Ex: moon that rotates around the earth.





Evaluation



A Complete:



1. The stars are ………….. bodies while the…………… are dark bodies.
2. There are ………………planets in the solar system
3. The moon is dark but it seems shiny as it ……………… the sunlight .
4. …………. is the planet where we live .
5. At night the big stars in the sky look …………, because they are …………..from us .
6. Mercury is the ……………. Planet to the sun .

B Choose:

1. (Mars – Uranus – Jupiter) is the biggest planet .
2. The sun is a (small – medium – large) sized star .
3. The nearest planet to the sun is (Venus – Earth – Mercury) .
4. The sun is one of the (planets – moons – stars) .

C Give reason for:

The moon is a dark body, but it seems shiny.

………………………………………………………………………………

Home work



A Complete:

1. The sun radiates ……………..and…………….

2. The number of the planets that revolve around the sun is…………………

3. ………………are shiny bodies.

4. The third planet away from the sun is …..…………….

5. Planets are arranged according to their distance from the sun as follows…………,……………,…………….,Earth, …………..,Jupiter, Saturn,................and Neptune.

B Choose:

1. ……………planet lies between Mercury and Earth planets.
   a. Saturn b. Jupiter c. Venus

2. The red planet is………….
   a. Jupiter b. Mercury c. Mars

3. The blue planet is.…………..
   a. Neptune b. c. solid-solid

4. ……………… is dark body that reflects sunlight .
   a. Star b. Moon c. Mars

C Put (√) or (×):

1. Stars are equal in size. ( )
2. The sun is a dark body that reflects the sun light. ( )
3. The fifth planet away from the is the earth. ( )





Lesson 2 The Rotation of the Sun and the Earth

* The Sun rises from the East and sets to the West.
* The Sun seems to be moving but it is not and this is called (the apparent rotation of the Sun).



The movement of the Sun

*The Sun seems to be moving from East to West, because the Earth rotates around itself (its axis).

G.R The apparent rotation of the sun.

⇨ Due to the rotation of the earth around itself.

*The movement of the shadow of any body is due to the apparent rotation of the Sun.

The movement of the shadow.

⇨ Due to the apparent rotation of the sun.









***A summary day is longer than a winter day**, because the Sun takes different apparent oorbits from east to west, The apparent orbit of the Sun in summer is longer than that in winter.

G.R **The summer day is longer than the winter day.**

⇨ The apparent orbit of the sun in summer is longer than in winter



The Rotation of the Earth



th makes two rotations

a. Around itself(its axis)	a. Around the sun

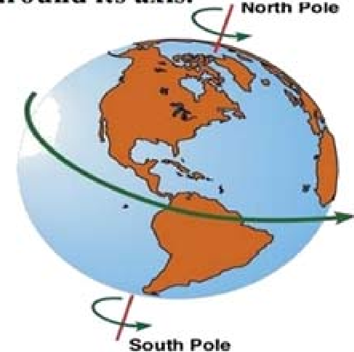
A) Rotation of the Earth around itself:

*The rotation of the Earth around itself (its axis) causes the sequence of day and night.

G.R **The sequence of day and night.**

⇨ Due to the rotation of the earth around itself.

*The Earth takes 24 hours to complete one rotation around its axis.



*The hours of the day are not equal to the hours of the night as the axis of the Earth is inclined.

G.R **The hours of the day are not equal to the hours of the night.**

⇨ Because the earth axis is inclined.

B) Rotation of the Earth around the Sun:

*Earth rotates around the Sun once every 356 $\frac{1}{4}$ days (a year).

*This rotation causes the sequence of the four seasons.

G.R

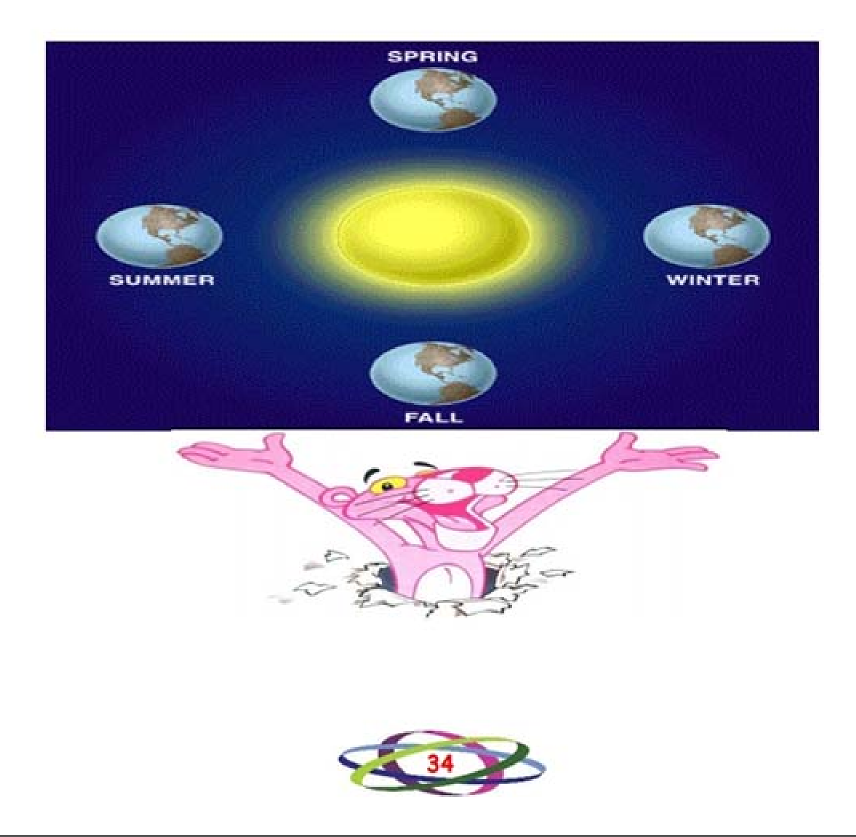


⇨ Due to the rotation of the earth around the sun.

*The four seasons are (Summer – Autumn - Spring - Winter).

N.B:

The hours of day are equal to the hours of night in spring and autumn.



Summary

Rotation of the earth around the sun.	Rotation of the earth around itself.
Takes 365 $\frac{1}{4}$ day or one year.	Takes 24 hours
Causes the sequence of thethe four seasons.	Causes the sequence of the day and night.







Evaluation

A Complete:

1- The Sun rises from ………. and sets at ………….

2- The Earth rotates around its axis once every……………..

3- The axis of the Earth is …………………...

4- The day in the …………… season is longer than in the ………………..season.

5- The hours of day are equal to the hours of night in the………..and …………..seasons.

B Put (√) or (X):

1- The rotation of the Earth around the Sun leads to the sequence of the four seasons. ( )

2- The Earth rotates around the Sun every month. ( )

3- The Sun does not rotate around the Earth. ( )

4- The Earth rotates around its axis every day. ( )

5- The Earth rotates around the Sun every 300 days. ( )

C Give reason for:

The hours of the day are not equal to the hours of the night.

……………………………………………………………..







Home work

A Choose the correct answer:

1- The Earth axis is …………………..
a- vertical b- inclined c- horizontal
2- Earth rotates around the sun once every……………………..
a- 365 1\4 day b- 365 day c- 24 hours
3- Changing the position o shadow of an object during the day occurs due to …………………..
a- rotation of the sun around the Earth. b- rotation f the sun around its axis. c- rotation of the Earth around its axis.

B Correct the underlined words:

1- Earth rotates around its self once every <u>28</u> days. (……………………………….)
2- The rotation of the Earth around the sun once every 365¼ days causes the sequence of <u>day and night</u>. (………………………………)
3- Day during summer season is <u>shorter</u> than day during winter season. (…………………….………)
4- The length of day equals the length of night in <u>summer</u> and spring. (……………………………….)

C Write the scientific term:

1- A season in which day is longer than night. (……………………………….)
2- A phenomenon occurs when the Earth rotates around its axis. (………..)
3- A season in which day is shorter than night. (……………………………….)

D Put (√) or (X):

1- The sun seems to be risen from the west. ( )
2- The day is nearly equal to night in summer and autumn seasons. ( )
3- Earth revolves around the sun in 365¼ days. ( )
4- The movement of shadow of any fixed object exposed to the sunlight is due to apparent movement of the sun.( )



Final Revision

First Term



Final revision

A) Write the scientific term:-

1) Everything that has mass and volume. (…..………..…….)
2) The unit of measuring volume of liquids. (…………...……..)
3) A tool that measures the volume of liquids and irregular solids. (…………………….)
4) A tool that measures small masses. (……………………)
5) A substance that has a definite shape and volume. (…..……..………)

6) A unit of measuring mass. (………………..)

7) It is the change in the shape not in the structure. (……….……….)

8) It is the change in the structure to form a new substance with different properties. (………………….)

9) Transformation of matter from the liquid state to the solid state. (……………………)

10) A state of matter that has indefinite shape and volume. (…….……..…......)

11) The transfer of matter from the gaseous state to the liquid state. (…………………….)

12) A matter that is characterized by having a definite volume but it takes the shape of its container. (…………………)
13) The structural unit of a matter and it is the simplest form of matter that can not be decomposed into two substances or more. (…………………)
14) A group of elements having luster-good conductors of electricity and heat –high melting point-malleable and ductile-all of them are solids except mercury which is a liquid. (…………………..)
15) A group of elements that don't have luster-bad conductors of heat and electricity except carbon-low melting point-not malleable and ductile. (…………………….)
16) A dark body that revolve around the earth. (…………………)





B) Choose:-

1) The appearance of water droplets on a glass containing ice due to ....
A) Freezing C) Evaporation
B) Condensation D) Melting

2) .... is one of the liquids.
A) Salt C) Iron
B) Wood D) Oil

3) We can determine the volume of irregular shaped stone that does not dissolve in water by ....
A) A ruler B) a graduated cylinder C) a common balance

4) .... is an example of the physical changes.
A) Burning of a candle B) Iron rust C) dissolving of sugar in water

5) Liter is the unit of measuring ....of liquids.
A) mass B) volume C) length

6) The atmospheric pressure is measured by.............
A) anemometer B) vane C) barometer

7) Nitrogen gas represents ....of the atmosphere.
A) 21% B) 0.03% C) 78%

8) .... gas is necessary for the respiration of the living organisms.
A) Oxygen B) Nitrogen C) Carbon dioxide

9) The speed of the wind is measured by...................
A) Thermometer B) Anemometer
C) Barometer D) Vane

10) .... gas changes the clear lime water to milky
A) Oxygen B) Nitrogen
C) Carbon dioxide D) Hydrogen

11) The nearest planet to the Sun is.....................
A) Mars B) Earth

C) Mercury D) Jupiter

12) Electric wires are made up of ………………..
A)Sulphur B) Carbon
C)Jewels D)Copper

13) Cooking pots are made of …………….
A)Aluminium B)Iron
C)Sulphur D) Carbon

14) Gold and silver are used in manufacturing ………………….
A)Bridges. B)Planes.
C)Jewels. D)dry cell.

15) Statues are made up of ………………
A)Sulphur B) Carbon
C)Jewels D)Copper

C) Complete:-

1. Melting of wax is considered as a…………………… change.
2. Rusting of Iron is considered as a ……………..…… change.
3. Evaporation of water is considered as a …………..……… change.
4. Grinding of sugar is considered as a ……………..… change, while its burning is considered as a ……………..… change.
5. The stars are …………. bodies, while the …………….. are dark bodies.
6. There are ………………. planets in the solar system.
7. The moon is a dark body but it seems shiny because it …………… the sunlight.
8. ……………………… is the planet where we live.
9. The Sun rises from ……………. and sets to ……………….
10. The Earth rotates around its axis once every………………..
11. The axis of the Earth is ………………….



12. The day in the ………season is longer than the day in the ……. season.

13. The number of the day hours is equal to the number of the night hours in …………….. and ………..…….. Seasons.

14. We use ………………. in manufacturing of jewels.
15. We use …………… in manufacturing of bridges.
16. Poles of electric cells are made up of …………….
17. All the materials you see in your environment are made up of …………
18. The group of elements that have luster is known as ………………
19. The group of elements that doesn't have luster is known as ………….
20-Water represents …………of the earth's surface.
21-Ships and boats benefits from…………phenomenon to move through …………

D) Give reasons:-

1-The Moon seems shiny although it is a dark body.

……………………………………………………………………..…………

2- Air is a matter.

……………………………………………………………………………..…

3- Melting of ice is a physical change.

…………………………………………………………..……………...…..…

4- Burning of paper is a chemical change.

……………………………………………………………………………………

5- The stars seem very small to us.

…………………………………………………………………………………..…

6- The Sun is a star while Earth is a planet.

…………………………………………………………………………...……

7- Occurrence of the Moon phases.

…………………………………………………..

E) Put (√) or (×):-

1- The cm^3 is the unit of measuring length. (   )

2- We use the balance to measure the mass of objects. (   )



3- Different materials of the same volumes have the same masses. ( )

4- Volume is the space occupied by an object. ( )

5- The rotation of the Earth around the Sun leads to the sequence of the four seasons. ( )

6- The Earth rotates around the Sun once every month. ( )

7- The Sun does not rotate around the Earth. ( )

8- The Earth rotates around its axis once every day. ( )

9- The Earth rotates around the sun once every 300 days. ( )

10- Nitrogen gas is important for respiration for living organism. ( )

11- Carbon dioxide gas is used in making soda water. ( )

12- Wind direction is measured by vane. ( )

13- Atmospheric pressure is measured by barometer. ( )

14- Evaporation is the change of matter from the solid state to the liquid state. ( )

15- Freezing is the change of matter from the liquid state to the solid state. ( )



F) Correct the underlined word:-

1- The <u>balance</u> is used to measure volume of liquids.

2- Matter exists in <u>one</u> state only.

3- The <u>chemical</u> change is a change in the appearance (shape) of the matter but not in the structure.

4- <u>Freezing</u> is the change of matter from the liquid state to the gas state.

5- Melting of ice is considered as a <u>chemical change.</u>

6- <u>Earth</u> is the red planet.

7- The Earth rotates around its axis once every <u>28 hours.</u>

8- The rotation of the Earth around the sun causes the sequence <u>of day and night.</u>

9- <u>Oxygen</u> gas is used in making ammonia and nitrogenous fertilizers.

10- <u>The graduated cylinder</u> is used in measuring the mass of matter.

11- <u>Kilogram</u> is the unit of measuring volume of liquids.

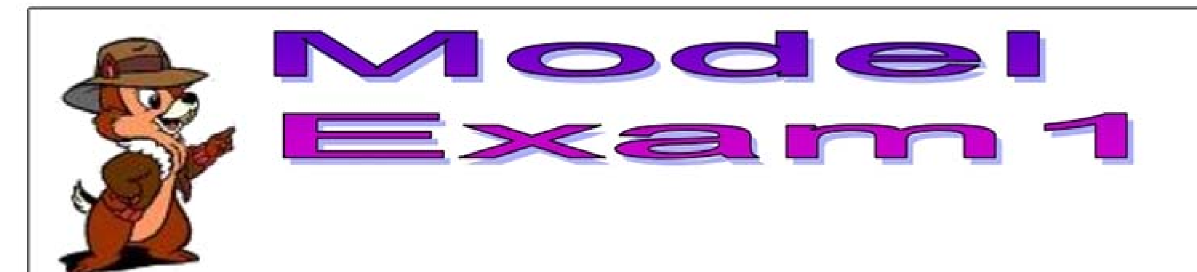
12- Different substances of equal volumes have <u>the same</u> masses.

13- The <u>anemometer</u> is used to measure atmospheric pressure.

14- The <u>solid state</u> has a definite volume but takes the shape of the container.

15- The <u>liquid</u> state can be pressed.





Question (1)

A) Complete

1- Grinding of sugar is considered as a ……………..… change, while its burning is considered as a ……………..… change.

2- The day in the ………season is longer than the day in the ……. Season

3- We use …………… in manufacturing of bridges.

4- The group of elements that have luster is known as ………………

B) Correct the underlined word

1-Kilogram is the unit of measuring volume of liquids.

2- The liquid state can be pressed.

3- Earth is the red planet.

4- The Earth rotates around its axis once every 28 hours.

Question (2)

A) Give reasons for

1- Air is a matter.

……………………………………………………………………………

……………………………………………………………………………

2- The stars seem very small to us.

……………………………………………………………………………

……………………………………………………………………………

B) Put (√) or (×)

1- The cm^3 is the unit of measuring length. ( )

2- Atmospheric pressure is measured by barometer. ( )

3- The Earth rotates around its axis once every day. ( )





Question (3)

A) Write the scientific term

1-Transformation of matter from the liquid state to the solid state.
(……………………)

2- A gas produced by the fire extinguisher.
(…………………...)

3- Elements that don't have luster and are good conductors of heat electricity.
(…………………..)

B) Choose the correct answer

1-Liter is the unit of measuring ………..of liquids.
A) Mass B) volume C) length

2- Nitrogen gas represents …………..of the atmosphere.
A) 21% B) 0.03% C) 78%





Model Exam2



Question (1)

A) Complete

1- The smallest planet is ……………, while the farthest planet from the sun is …………….

2-Green plants depend on ………… gas in the photosynthesis process, while Nitrogen gas is used in making ……………………..

3- Common balance is used for measuring ………………….

4- The …………….. substances have definite shapes and volumes.

B) Correct the underlined word

1- The rotation of the Earth around the sun causes the sequence of day and night.

2- The anemometer is used to measure atmospheric pressure.

3- Matter exists in one state only.

4- Freezing is the change of matter from the liquid state to the gas state.

Question (2)

A) Give reasons for

1- Melting of ice is a physical change.

………………………………………………………………………………

………………………………………………………………………………

2- The Moon seems shiny although it is a dark body.

………………………………………………………………………………

………………………………………………………………………………

B) Put (√) or (×)

1- Different materials of the same volumes have the same masses. ( )

2- Wind direction is measured by vane. ( )

3- Carbon dioxide gas is used in making soda water. ( )



Question (3)

A) Choose the correct answer

1- Gold and silver are used in manufacturing ………………….

A) Bridges. B) Planes.
C) Jewels. D) Dry cell.

2- ………. is one of the liquids.

A) Salt C) Iron
B) Wood D) Oil

3- ……………. is an example of the physical changes.

A) Burning of a candle B) Iron rust C) dissolving of sugar in water

B) Write the scientific term

1- A state of matter that has indefinite shape and volume. (…….……..….....)

2- A unit of measuring mass. (…………………..)







A) Complete

1- We use ………………. in manufacturing of jewels.

2- Evaporation of water is considered as a ……………..……… change.

3- The Sun rises from ……………. and sets to ……………….

4- The moon is a dark body but it seems shiny because it …………… the sunlight.

5- There are ………………. planets in the solar system.

B) Correct the underlined word

1- <u>The graduated cylinder</u> is used in measuring the mass of matter.

2- The <u>solid state</u> has a definite volume but takes the shape of the container.

3- Melting of ice is considered as a <u>chemical change.</u>

4- <u>Oxygen</u> gas is used in making ammonia and nitrogenous fertilizers.

Question (2)

A) Give reasons for

1- Burning of paper is a chemical change.

……………………………………………………………………………..........

……………………………………………………………………………..

2- The Sun is a star while Earth is a planet.

…………………………………………………………………………….

…………………………………………………………………………....





B) Put (√) or (×)

1- Volume is the space occupied by an object. ( )
2- The Earth rotates around the sun once every 300 days. ( )
3- Nitrogen gas is important for respiration for living organism. ( )

Question (3)

A) Choose the correct answer

1- Cooking pots are made of …………….
A)Aluminium B)Iron
C)Sulphur D) Carbon

2- The speed of the wind is measured by……………….
A) Thermometer B) Anemometer
C) Barometer D) Vane

3- The appearance of water droplets on a glass containing ice due to ..……
A) Freezing C) Evaporation
B) Condensation D) Melting

B) Write the scientific term

1- The transfer of matter from the gaseous state to the liquid state. (……………………)

2- Everything that has mass and volume. (…..……….…….)





Answers of the main book

Question (1): Complete:-

1- length, mass and volume.
2- mass
3- length
4- length
5- mass
6- length
7- Different

Question (2): Choose:-

1- a
2- a
3- c
4- b
5- d

Question (3):

Because they have the same masses.

P. 21

Question (1):

Wood, Sulphur and plate.

Question (2): Complete:-

1- Solid, liquid and gas.
2- Solid
3- Gaseous
4- Liquid
5- changes

Question (3) Give reason:-

Because, water has indefinite shape but gravels have definite shapes.





Question (4):Choose from column (b) what is suitable for column (a):-

4, 1, 2 and 3.

Question (5): Choose:-

1- d
2- b
3- b
4- a

P. 35

Question (1): Complete:-

1- Gold.
2- Iron.
3- Carbon.
4- Elements.
5- Metals.
6- Non-metals.

Question (2): Choose:-

1- c
2- a
3- c
4- a

Question (3):

Most one Aluminium: (used in making cooking pots).
Least one Gold: (used in making jewels).

Question (4) Write the scientific term:-

1- Element.
2- Metals.
3- Non-metals.

P. 44

Question (1): Complete:-





1- Chemical.
2- Physical.
3- Physical.
4- Structure.
5- Chemical.
6- Non-metals.

Question (2) Choose:-

1- b
2- c
3- a
4- b
5- c

Question (3) Compare:-

1- Melting of wax: Physical change.
Burning of wax: Chemical change.

2- Dissolving of sugar: Physical change.
Burning of sugar: Chemical change.

Question (4):

1- Paper recycling: (physical change: as its change in shape only)

2- Melting of chocolate: (physical change: as its change in shape only)

3- Production of yoghurt from milk new
(Chemical change: as it changes in shape and structure to form a substance with properties)

Question (5):

1- Physical change

2- Chemical change

3- Chemical change





4- Physical change
A
5- Chemical change

6- Physical change

Answers of General exercise

P. 59

Question (1): Choose the correct answer:-

1. 20
2. (B)
3. (B)
4. (B)
5. (C)
6. (B)
7. (B)
8. Cancelled
9. (C)
10. Cancelled

Question (2): Complete the following statement:-

1. Melting
2. Water vapor
3. Liquid- solid
4. Element
5. Metal, non-metal
6. Metal, non-metal
7. Non-metal, electricity.
8. physical, chemical
9. Physical – Chemical
10. Chemical





11. Cancelled
12. Cancelled
13. Cancelled
14. Cancelled
15. Cancelled
16. Cancelled
17. Cancelled

Question (3): What happen when:-

1. Liquid change to solid (freezing)
2. Gas change to liquid (condensation)
3. Chemical change happened
4. Cancelled
5. Cancelled
6. Cancelled
7. Solid ice will change into liquid water.
8. Water evaporates salt remains in the dish.
9. Chemical change and
10. Cancelled
11. Cancelled
12. Cancelled
13. Cancelled

Question (4):

1. Gas – liquid
2. Solid – liquid
3. Physical change

Question (5):

Melting → / ← Freezing

Evaporation → / ← Condensation

Question (6):



- Iron rust.
- Chemical change.

Question (7): Complete the following table:-

- Chemical
- Chemical
- Physical
- Chemical
- Physical
- Physical
- Chemical

Unit two

P. 75

Question (1):

1. (b)
2. (d)
3. (c)
4. (b)

Question (2): Complete the following:-

1. Sun – 8 plantes
2. Venus - Mars
3. Mercury - Neptune
4. Red – Blue

Question (3): Give reasons:-

1. Because sun emits heat and light but Earth is a dark body.
2. Because they are far from us.
3. Because it reflects the sunlight that falls on it.





Question (4): Compare the planet to the star:-

* **Planets:** are dark bodies, and revolve around the sun.
* **Stars:** are shiny bodies that emit heat and light.

P. 85

Question (1): Choose the correct answer:-

1. (b)
2. (c)
3. (a)

Question (2): Cancelled

-:Question (3): Look at the opposite drawing and answer the questions

1. Northern
2. day
3. winter

Question (4):

1. summer
2. spring – autumn

P. 104

Question (1): Choose the correct answer:-

1- (b)
2- (d)
3- (a)
4- (c)

Question (2): Complete the following:-

1. Carbon dioxide
2. ammonia – fertilizers
3. vane





Question (3): What is the importance of predation of the weather?

* To wear heavy clothes when it is cold.
* To slow down the cars speed when it is foggy.
* Use the umbrella when it rains.
* When the wind is strong the boats must not sail.

Question (4):

* 25
* Sunday
* Thursday

Question (5): What do you advice you classmates in the following weathering conditions:-

1. Wear heavy clothes.
2. Use the umbrella.
3. The boats should not sail.
4. The cars should slow down the speed.

Answers of general exercises

P.113

Question (1): Choose the suitable word:-

1- Shining – different - dark
2- 8 – sun
3- Mercury – Neptune – Jupiter
4- earth – earth
5- cancelled
6- 21% - respiration
7- Barometer – anemometer

Question (2): Write the scientific term:-





1- Planets
2- moon
3- cancelled
4- wind
5- cancelled
6- cancelled

Question (3): What is the type of the phenomenon resulted from:-

1-Sequence of day and night
2-Sequence of four seasons
3-cancelled
4-cancelled
5-cancelled

Question (4): Cancelled

Question (5): Cancelled

Question (6): Compare:-

1- Star: is shining body
Planet: is a dark body
2- Cancelled
3- Cancelled

Question 7: What is the importance of weather forecasting for:-

1- To cultivate the suitable crops for weather.
2- During strong wind it is advised not to sail.
3- In foggy morning, they should decrease their speed of cars to avoid accident.

Question 8: Cancelled

Question 9: Cancelled

Question 10: Do you follow the weather forecast? Why?

- Yes, to wear heavy clothes in low temperature.





Question 11: Cancelled

Question 12:

Oxygen:- 21% (1/5)
Importance:-
* In respiration process.
* Use in welding metals.
* Helps in burning fuel.

Carbon dioxide:- 0.03%
Importance:-
* Used in photosynthesis process.
* Used in making soda water.
* Helps in making fires extinguisher.

General revision on the first term

P.119

Question (1): Complete the following:

1- M^3
2- cancelled
3- cancelled
4- day and night – the four seasons
5- metal – non-metal
6- barometer - anemometer
7- physical change
8- cancelled
9- Mercury - Neptune
10- liquid – solid

Question (2): Choose the correct answer:

1-(c)
2-(b)
3-(b)
4-(c)
5-(b)





6-cancelled
7-(b)
8-(b)

Question (3): Write the scientific term

1-matter
2-stars
3-cancelled
4-Earth
5-condensation
6-cancelled
7-moon
8-cancelled

Question (4): Give the scientific reason:

1-because it reflects the sun light.
2-because it is a solid.
3-cancelled
4-cancelled
5-cancelled
6-cancelled

Question (5): Match

1-d
2-f
3-b
4-c
5-a

Question (6):

A) Cancelled
B) The least volume and mass is 16cm3





Question (7): Give reason:

1-Because of the rotation of earth around its axis.
2-Because of the rotation of earth around the sun.
3-Cancelled

Question (8):

1- If the element is good conductor of heat and electricity and has luster then it is metal.
2-If the element is bad conductor of heat and electricity and does not have luster then it is non - metal.

Answers of final revision

A) Write the scientific term:-

1) Matter.
2) Litre.
3) Graduated cylinder.
4) Sensitive balance.
5) Solid.
6) Kilogram,gram or ton.
7) Physical change.
8) Chemical change.
9) Freezing.
10) Gas.
11) Condensation.

12)Liquid.

13) Element.

14) Metals.

15) Non-metals.

16) The moon

B) Choose:-

1) B) Condensation

2) D) Oil

3) B) a graduated cylinder

4) C) dissolving of sugar in water

5) B) volume

6) C) barometer

7) C) 78%

8) A) Oxygen

9) B) Anemometer

10) C) Carbon dioxide

11) C) Mercury

12) D)Copper

13) A)Aluminium

14) C)Jewels.





15) D)Copper

C) Complete:-

1. Physical.
2. Chemical.
3. Physical.
4. Physical,chemical.
5. Lightening, planets.
6. Eight.
7. Reflects.
8. Earth.
9. East,west.
10. 24 hours.
11. Inclined.
12. Summer, winter.
13. Spring,autumn..
14. Gold.
15. Iron.
16. Carbon.
17. Elements.
18. Metals.
19. Non-metals. 20. 71% 21. tide, shallow water

D) Give reasons:-

1-Because it reflects sun light fall on it.
2- Because it has mass and volume.





3- Because it changed in shape only not in structure.
4- Because it changed in structure to produce a new substance with new structure and new properties.
5- Because they are so far from us.
6- Because sun is a lightening body but Earth is a dark body.
7- Due to the rotation of the moon around the earth.

E) Put (√) or (×):-

1- (×)
2- (√)
3- (×)
4- (√)
5- (√)
6- (×)
7- (√)
8- (√)
9- (×)
10-(×)
11-(√)
12-(√)
13-(√)
14-(×)
15- (√)

F) Correct the underlined word:-



1-Graduated cylinder.
2-Three.
3-Physical.
4-Evaporation.
5-Physical change.
6-Mars.
7-24 hours.
8-four seasons.
9-Nitrogen.
10-Balance.
11-Litre.
12-Different.
13-Barometer.
14-Liquid.
15-Gas.

Answers of model exams

Model exam (1)

Question (1)

A) Complete

1- Physical change, chemical change.
2- Summer, winter.
3- Iron.
4- Metals.

B) Correct the underlined word

1- Liter.
2- Gas.
3- Mars.
4- 24 hours.

Question (2)





A) Give reasons for

1- Because it has mass and volume.
2- Because they are so far from our Earth.

B) Put (√) or (×)

1-(×)
2- (√)
3- (√)

Question (3)

A) Write the scientific term

1- (……Freezing.….)
2- (… Carbon dioxide..)
3- (…Non-metals…..)

B) Choose the correct answer

1- B) Volume
2- C) 78%

Model exam (2)

Question (1)

A) Complete

1- Mercury, Neptune.
2-Carbon dioxide, fertilizers.
3- Small masses.
4- Solids.

B) Correct the underlined word

1- Four seasons.
2- Barometer.
3- Three.
4- Evaporation.

Question (2)

A) Give reasons for





1- Because it changes in shape only not in its structure.

2- Because it reflects the sun light that falls on its surface.

B) Put (√) or (×)

1- (×)

2- (√)

3- (√)

Question (3)

A) Choose the correct answer

1- C) Jewels.

2- D) Oil

3- C) Dissolving of sugar in water

B) Write the scientific term

1-(…Gas.....)

2-(…Kilogram..)





Model exam (3)

Question (1)

A) Complete

1- Gold.
2-Physical.
3- East, west.
4- Reflects.
5-Eight.

B) Correct the underlined word

1- Balance.
2- Liquid state.
3- Physical change.
4- Nitrogen gas.

Question (2)

A) Give reasons for

1- Because it changes in structure and shape to produce a new substance with new properties.

2- Because sun is a shining body emits heat and light , but Earth is a dark body.

B) Put (√) or (×)

1- (√)
2-(×)
3- (×)

Question (3)

A) Choose the correct answer

1- A) Aluminium.
2- B) Anemometer.
3- B) Condensation.



B) Write the scientific term

1-(…Condensation.....)

2-(…Matter..)

Final Revision Practical Sheet

Experiment	Answer
1) a- What is this apparatus?	a) A graduated cylinder.
b- It measures	b) The volume of liquids.

70
60
50
40
30
20
10

Experiment	Answer
2) a- What is this apparatus?	a) Sensitive balance.
b- It measures	b) The small mass of matter.

3) Classify the following into (Physical) or (Chemical) Change.

1- Grinding sugar.
2- Burning paper.
3- Burning sugar.
4- Melting of ice.

Physical Change	Chemical Change
Grinding sugar	Burning paper
Melting of ice	Burning sugar

4-Find the volume of the
the following shape.
Volume = ...2.. x ...3.. x ...5..
= ......30....... Cm^3

